

H-205705

CATALYTIC BURNER ELEMENT INSIDE A FUEL CELL WITH STRUCTURED CATALYTIC COATED SURFACES

ABSTRACT OF THE DISCLOSURE

A heat-emitting burner element, especially for use in a
 reformer unit of a fuel cell system, consists of two at least essentially parallel
 and spaced-apart plates and is characterized by the fact that the plates form a
 5 reaction gap between them, and as a result of the catalytic combustion of a
 fuel gas/oxygen mixture there on a catalytic coating facing the reaction gap
 provided on at least one of the plates, generate heat and emit it by radiation,
 convection and conduction directly through the coated plates(s) to at least one
 neighboring endothermic stage and that at least one of the plates displays
 10 structural elements having the catalytic coating and also extending into the
 reaction gap, which structural elements extend in the flow direction and
 consist, e.g., of fins or bars. A device for introducing diluting air
 transversely to the flow direction through the reaction gap is preferably
 provided.

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